## (19) World Intellectual Property **Organization**

International Bureau





(43) International Publication Date 13 January 2005 (13.01.2005)

PCT

## (10) International Publication Number WO 2005/002529 A3

(51) International Patent Classification7: C07K 16/28

C12P 21/08.

(21) International Application Number:

PCT/US2004/009622

(22) International Filing Date: 29 March 2004 (29.03.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/458,869

28 March 2003 (28.03.2003) US

(71) Applicant and

(72) Inventor: HIMAWAN, Jeff [US/US]; 7 Calle Merecida. Talega Complex, San Clemente, CA 92673-6847 (US).

(72) Inventors; and

- (75) Inventors/Applicants (for US only): HAMILTON, Anita, A. [GB/GB]; 130 Kings Gate, Aberdeen, AB15 4EQ (GB). CARR, Francis, J. [GB/GB]; Birchlea, The Holdings, Balmedie, Aberdeenshire AB23 8XU (GB).
- (74) Agents: ANTLER, Adriane, M. et al.; Jones Day, 222 East 41st Street, New York, NY 10017-6702 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN. CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report: 30 June 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: IMMUNOGENICITY-REDUCED ANTI-CR1 ANTIBODY AND COMPOSITIONS AND METHODS OF TREAT-MENT BASED THEREON

(57) Abstract: The invention provides immunogenicity-reduced antibodies or antibody fragments that bind a human CR1 receptor. The immunogenicity-reduced anti-CR1 antibody of the invention comprises one or more non-human sequences modified to comprise one or more amino acid substitutions so that the immunogenicity-reduced antibody id non-immunogenic or less immunogenic to a human. The invention also provides bispecific molecules comprising such an immunogenicity-reduced anti-CR1 antibody and an antigen-recognition portion that binds a pathogen. The invention further provides methods and compositions for the treatment of diseases or disorders caused by a blood-borne immunogenic pathogen using the bispecific molecule of the invention.





## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/09622

A. CLASSIFICATION OF SUBJECT MATTER						
IPC(7) : C12P 21/08; C07K 16/28 US CL : 530/387.3, 388.22						
According to International Patent Classification (IPC) or to both national classification and IPC						
B. FIELDS SEARCHED						
Minimum documentation searched (classification system followed by classification symbols) U.S.: 530/387.3, 388.22						
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched						
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Please See Continuation Sheet						
C. DOCUMENTS CONSIDERED TO BE RELEVANT						
Category *	Citation of document, with indication, where appropriate, of the relevant passages Relevant to claim					
A	HOGG, N. et al. Identification of an anti-monocyte membrane complement receptor type one (CR1). Et 1984, Vol. 14, No. 3, pages 236-243, see entire docu	al. Identification of an anti-monocyte monoclonal antibody that is specific for implement receptor type one (CR1). European Journal of Immunology, March No. 3, pages 236-243, see entire document.				
Further	documents are listed in the continuation of Box C.		See patent family annex.			
• Sp	pecial categories of cited documents:	"T"	later document published after the intendate and not in conflict with the application	national filing date or priority		
"A" document particular i	defining the general state of the art which is not considered to be of relevance	"X"	principle or theory underlying the inven	tion		
	lication or patent published on or after the international filing date	^	document of particular relevance; the cla considered novel or cannot be considered when the document is taken alone			
	<ul> <li>document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</li> </ul>		document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined			
"O" document	referring to an oral disclosure, use, exhibition or other means		with one or more other such documents, obvious to a person skilled in the art	, such combination being		
"P" document published prior to the international filing date but later than the priority date claimed		"&" document member of the same patent family				
Date of the actual completion of the international search			Date of mailing of the international search report			
21 March 2005 (21.03.2005)  Name and mailing address of the ISA/US			dofficer 2			
Mail Stop PCT, Attn: ISA/US Commissioner for Patents		F. Pierre Vander verschieder				
P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230			e No. 571-272-1600	Joe !		

Form PCT/ISA/210 (second sheet) (January 2004)

	International application No.		
INTERNATIONAL SEARCH REPORT	PCT/US04/09622		
	·		
	•		
Continuation of B. FIELDS SEARCHED Item 3:			
SEQ ID NO:2 in sequence database			
SEQ ID NO:2 in sequence database WEST; STN Medline, Embase, Scisearch TERMS: CR1, antibody, mAb "E11"			
TERMS: CR1, antibody, mAb "E11"			

Form PCT/ISA/210 (extra sheet) (January 2004) .